



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/892,355 | 06/26/2001 | Eric L. Christiansen | MSC-23314-1 | 2179 |

24957 7590 08/15/2003

NASA JOHNSON SPACE CENTER
MAIL CODE HA
2101 NASA RD 1
HOUSTON, TX 77058

EXAMINER

LOFDAHL, JORDAN M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3644

DATE MAILED: 08/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,355

Applicant(s)

CHRISTIANSEN ET AL.

Examiner

Jordan Lofdahl

Art Unit

3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 27-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-34 is/are allowed.
- 6) ☒ Claim(s) 1-22 and 35-38 is/are rejected.
- 7) ☒ Claim(s) 39 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 3644

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 7/31/03 have been fully considered but they are not persuasive.

Specification

The use of the trademark Velcro has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology such as "hook and loop material".

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 7-11, 13, 14, 16-22 and 35-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Dvorak (6298765).

As to claim 1, Dvorak discloses a device comprising a plurality of shield layers (36) which are capable of being flexible; a support layer (38) capable of being resilient; a protective cover (20); and fasteners (40).

Art Unit: 3644

As to claim 2, disclosed is the support layer being open cell foam.

As to claim 7-9, disclosed are the fasteners comprised of Velcro or snap or straps (col. 5, lines 3-7).

As to claims 10 and 11, disclosed is the flexible shield comprised of ceramic fabric or high-strength fabric (col. 3, lines 44-49).

As to claim 13, disclosed is the cover made of an abrasion resistant material and provide thermal protection (col. 4, lines 14-31).

As to claim 14, disclosed is a vented cover (22).

As to claim 16, the cover is optically reflective.

As to claim 17, disclosed is a device comprising a means for shocking particles (36); means for supporting the shocking means in a resilient manner (38); means for enclosing the shocking means in a cover layer (20) and a means for securing the shocking means to a structure (40).

As to claim 18, disclosed is a means for reducing a size and volume occupied by the protection system. The device is capable of compressing (col. 3, lines 61-64).

Art Unit: 3644

As to claim 19, disclosed is a means for deploying the shocking means on a structure.

As to claim 20, disclosed is a means to thermally insulate the shocking means.

As to claim 21, disclosed is a means for venting gas particles (22).

As to claim 22, disclosed is a means for containing debris (col. 4, lines 37-48).

As to claim 35, the cover is optically absorptive.

As to claim 36, disclosed is a device comprising a plurality of holes (22) in a peripheral side wall capable of venting gases. The device can be in used in numerous orientations and the holes in fig. 1 are read being in a peripheral side wall.

As to claim 37, disclosed is a back wall layer (25) between the plurality of flexible shields and the protective cover.

As to claim 38, Dvorak discloses a device comprising a plurality of shield layers (36) having a thickness that is determined based on the size of a particle to be shocked (it is inherent in the art of shielding that the thickness of the shielding material is based on the projectile it is designed shield).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 3-6, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dvorak (6298765).

As to claims 3 and 4, not disclosed is the support layer being closed-cell foam with a low pressure gas. It would have been obvious to one having ordinary skill in the art at the time the invention was made to comprise the support layer of closed-cell foam with a low pressure gas, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

As to claim 5, not disclosed is the support layer being a ceramic foam. It would have been obvious to one having ordinary skill in the art at the time the invention was made to comprise the support layer of a ceramic foam, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

As to claim 6, not disclosed is the support layer having one or more portions removed therefrom. It would have been obvious to one having ordinary skill in the art at the time the invention was

Art Unit: 3644

made to remove portions of the support layer, since it has been held that omission of an element and its function in combination where the remaining elements perform the same function as before involves only routine skill in the art.

As to claim 12, not disclosed is the particle shield comprising at least one thermal insulation layer. Since the material is "space-rated". It is inherent that the shield is thermally insulated.

As to claim 15, not disclosed is the cover being flame retardant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to comprise the cover of flame retardant material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Allowable Subject Matter

Claims 27-34 are allowed.

Claims 39 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Even if Dvorak is not enabling it is still read as prior art more than a year prior to the instant applications filing date. Dvorak explicitly shows the structure of the instant claims. As stated

Art Unit: 3644

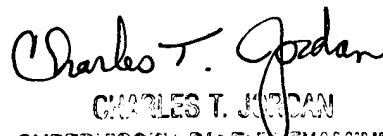
earlier, it would have been obvious to change the size of a shield depending on what size particle which is impacting the shield.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan Lofdahl whose telephone number is 703.605.1217. The examiner can normally be reached on M-F 7-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan can be reached on 703.306.4159. The fax phone numbers for the organization where this application or proceeding is assigned are 703.305.7687 for regular communications and 703.305.7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.306.4148.

jml
August 12, 2003


CHARLES T. JORDAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3800